



Ann Arbor City Hall

Natural Gas Powered Chiller

Description

An obsolete 200 ton, TonRack electric powered chiller in the Ann Arbor City Hall was replaced in March of 1992 with a new, 150 ton TecoChill brand gas powered chiller to provide air-conditioning for the 90,000 square foot building. The cost to install the chiller, after MichCon's incentive rebate of \$35,000 was \$156,000 (this cost includes additional work done to replace cooling coils). The installation of this new chiller reversed the trend of increasing electric costs, which was averaging a 6% increase per year. Further electric bill savings for the city hall have also been realized through additional energy saving measures, including lighting retrofits and a building energy management system installed in 1996.

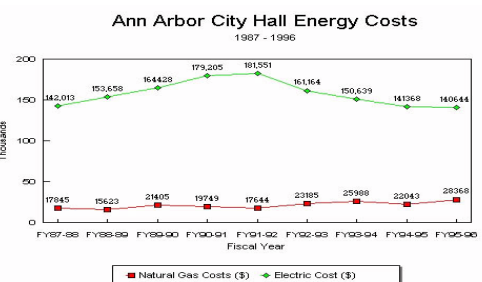
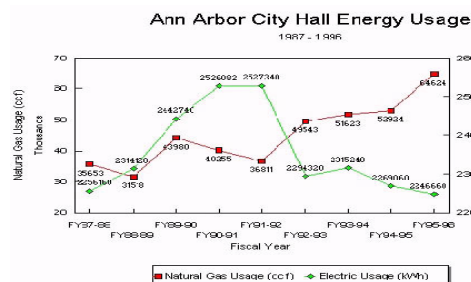
Gas Chiller Features

- variable speed operation allowing load following capability
- routine maintenance conducted by in-house staff
- bi-annual servicing by a TecoChill technician at a cost of \$1,400/year
- nearly problem free operation since its installation
- The manufacturer predicted an engine rebuilt would be required after 15,000 running hours at a cost of \$8000.
- The chiller has logged over 17,900 running hours, with an average load of 46%, with no engine rebuild required to date.

Energy Savings

- Electric costs rose over 6% per fiscal year between 1987 and 1991.
- After the natural gas chiller was installed, the electric costs have decreased every fiscal year.
- Electric costs were lower for FY95-96 than they were for FY 86-87.
- After the natural gas chiller was installed, the natural gas costs have increased every fiscal year.
- The electric cost decrease outweighs the natural gas increase, creating a net annual energy savings. The annual savings has averaged \$28,000/year since 1992 compared to the baseline costs for fiscal year 91-92.
- A portion of the electric cost decrease is due to a decrease in the electric demand cost. This decrease in cost can be attributed to the gas chiller.
- Future energy savings in the building may reflect energy conservation measures performed in 1996, including lighting system retrofits and the installation of an

Pre- and Post Chiller Installation Energy Usage



For more information regarding this Energy Project or ideas for future case studies contact:

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